

REMARKS

Applicants request reconsideration in light of the above amendments and following comments submitted under 37 C.F.R. § 1.111.

1. Status of the Claims

The status of the claims following entry of the amendments is as follows:

Claims pending:	14-28
Claims rejected:	14-28
Claims canceled:	1-13
Claim amended:	14, 22, and 28

2. Support for the Amendments

Applicants amend claims 14 and 22 to (1) remove the alleged negative limitations; (2) recite using a stone mortar during the grinding step; and (3) recite the properties of the powdered tea obtained during the grinding step. Support for the removal of the alleged negative limitation in claims 14 and 22 can be found at least from the original claims. Support for using a stone mortar during the grinding step can be found at least at (1) the paragraph bridging pages 7-8; (2) the last paragraph at page 12 (Example 1); and (3) the paragraph bridging pages 13-14 (Example 3) of the Specification. Support for the particle size of the powdered tea can be found at least at the paragraph bridging pages 7-8 of the Specification ("By this grinding step, the tea raw material is preferably ground to generally a particle size of about 1 to 100 μm ."). Applicants do not believe that the amendments add prohibited subject matter that is unsupported by the Specification as filed.

The claims have been amended without prejudice to, or disclaimer of, the canceled subject matter. Applicants reserve the right to file a continuation or divisional application on any subject matter canceled by way of the amendments.

3. Information Disclosure

Applicants appreciate the Office's acknowledgement of the Information Disclosure Statement (IDS) filed February 18, 2010.

Applicants respectfully request the Office's acknowledgment of the IDSs filed December 10, 2010, and December 28, 2010 with the Office's next communication.

Applicants submit herewith another IDS for consideration by the Office. Acknowledgement and return with the Office's next communication is respectfully requested.

4. Rejection Under 35 U.S.C. § 112, first paragraph

The Office rejects claims 14-28 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Office Action, page 2. The Office alleged that the negative limitation, "without adding an antioxidant prior to removing the particles," lacks support. *Id.*

Without acquiescing to the merits of the Office's rejection, Applicants amend claims 14 and 22 to remove the alleged negative limitation. Accordingly, the rejection is mooted. Applicants respectfully request withdrawal of the rejection and allowance of the claims.

5. Rejection Under 35 U.S.C. § 103(a)

5.1. Claims 14-28

The Office maintains the rejection of claims 14-28 under 35 U.S.C. § 103(a) as allegedly unpatentable over **Yutaka** et al., JP 08-116881 ("Yutaka") in view of **Yoshiyuki** et al., JP 11-276074 ("Yoshiyuki"). Office Action, page 4.

Grounds For Rejection

Yutaka allegedly teaches a method for producing a tea beverage comprising:

- 1) pulverizing tea leaves to obtain ground tea particles with a size of 125 μ m or less;
- 2) suspending the ground tea in water at a density of 5%;
- 3) homogenizing the ground to obtain an ultrafine powder tea; and

4) including the ultrafine powder tea as a component in a tea drink.

Id. The Office admits that Yutaka as the primary reference does not teach step **c)** (removing not less than about 50% of the particles of about 1 μm or more in diameter from the powdered tea to obtain a ground tea dispersion), and step **d)** (blending the ground tea dispersion with a tea extract to produce said tea beverage) of claim 14. *Id.*

Yoshiyuki allegedly teaches centrifuging a fine powdery tea dispersion to remove larger particles and leave particles of 1 μm or less in diameter. *Id.* The Office apparently applies Yoshiyuki to cure the defects of Yutaka. The Office alleges that Yutaka and Yoshiyuki “are combinable because they are concerned with the same field of endeavor.” *Id.* It allegedly would have been obvious for a skilled artisan “to have removed particles of 1 μm or more in diameter ... in the fine powdery tea dispersion ... to make a tea beverage with excellent flavor and clarity.” *Id.*, at 4-5.

Arguments

Applicants traverse the rejection to the extent it may be applied to either the amended or unamended claims. “[O]bviousness requires a suggestion of *all* limitations in a claim.” *CFMT, Inc. v. Yieldup Int’l Corp.*, 349 F.3d 1333, 1342, 68 U.S.P.Q.2d 1940, 1947 (Fed. Cir. 2003) (emphasis added). Once the scope and content of the prior art are determined, the relevant inquiry is whether the prior art suggests the claims, and whether one of ordinary skill in the art would have had a reasonable expectation that the claimed invention would be successful. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

A. The References Fail to Teach All Claim Elements

As amended, each of claim 14 and 22 recites *inter alia* “grinding a tea raw material with a *stone mortar* to obtain a powdered tea” having the specified properties. Applicants submit that the cited references, alone or when viewed in combination, fail to teach or suggest this claim element.

Yutaka at best may teach grinding a tea material (Yabukitacha produced in Shizuoka, a type of Japanese green tea) with a *centrifugal crusher* to obtain a ground tea having particle size of 125 μm or less; (2) suspending the ground tea in water at a density of 5%; and (3) wet-pulverizing the suspension with a NANOMIZER to obtain a fine powdered tea suspension. *See*

partial English translation of Yutaka submitted May 26, 2009, ¶¶ [0030] and [0032]. A centrifugal crusher differs from a stone mortar. Yoshiyuki at best may teach (1) preliminarily pulverizing a green tea material, and (2) further wet-pulverizing the tea material with a NANOMIZER. *See* partial English translation of Yoshiyuki submitted May 26, 2009, ¶ [0038]. Yoshiyuki does not specify what kind of apparatus is used to preliminarily pulverize a green tea material. Yutaka and Yoshiyuki, alone or when viewed in combination, fail to teach or suggest at least grinding a tea raw material with a stone mortar. Additionally, there is no evidence on the record that a skilled artisan would have been directed to use a stone mortar as the grinding apparatus. Without all claim elements taught, there can be no expectation that the presently recited methods would have worked predictably.

B. The Art Teaches Away the Claimed Methods

Additionally, Applicants submit that the art at the time taught away from using a stone mortar to grind a raw tea material. Applicants respectfully direct the Office to JP 1997-140331A, JP 2003-93907A, and JP 2002-281900A, all of which are included in the concurrently filed IDS.

JP 1997-140331A is generally directed to a tea leaf grinder. *See, e.g.*, partial English translation of JP 1997-140331A, claim 1. The reference teaches that although a stone mortar can be used for grinding tea leaves (Tencha) to obtain fine tea particles, pulverization with a stone mortar is both *inefficient* and *costly*. *Id.*, ¶¶ [0002]-[0003].

JP 2003-93907A is generally directed to a method and device for grinding a plant material such as tea leaves. *See, e.g.*, partial English translation of JP 2003-93907A, ¶ [0001]. The reference teaches that although a stone mortar can be used to produce a powdered tea having a small diameter, pulverization with a stone mortar carries many defects. The pulverization with stone mortar is *inefficient*. Additionally, the ground tea powders would spill out from a stone mortar during grinding. *Id.*, ¶ [0002]. The latter creates *sanitary problems* when producing a food product, because the work environment becomes polluted with the spilled-out powdered tea. *Id.* Accordingly, there are concerns about the management of grinding with a stone mortar. *Id.*

JP 2002-281900A is generally directed to a method of producing an ultrafine ground tea. *See, e.g.*, partial English translation of JP 2002-281900A, claim 5. The reference describes various devices for grinding a powdered tea. To avoid a rough texture feeling by the tongue, ultrafine ground particles need to have a maximum diameter of 30 μm or less, or 10 μm or less for sensitive tongues. *Id.*, ¶ [0014]. Commonly used grinders (*e.g.*, a dry-type ball mill) require a long time to grind in order to obtain an ultrafine ground tea having a maximum diameter of 30 μm or less. *Id.*, ¶¶ [0016]-[0017]. When a powdered tea is ground with a ball mill, the surface of the balls will reach about 100°C. Such a high temperature will degenerate the ultrafine ground tea, rendering it commercially of little value. *Id.*, ¶ [0017]. Although using a stone mortar may mitigate the undesirable effects due to high temperature and air oxidation of the powdered tea, it is **difficult** to use a stone mortar to obtain an ultrafine ground tea having a maximum diameter of 30 μm or less. *Id.* Additionally, it is **impossible** to use a stone mortar to re-grind a powdered tea product from a prior stone-mortar grinding. *Id.*, ¶ [0018].

In summary, pulverizing or grinding tea leaves with a stone mortar is known at the time for the disadvantages of: (1) being inefficient; (2) being costly; (3) causing sanitary problems; (4) being impractical to obtain an ultrafine ground tea; and (5) being inoperable for regrinding processes. Given the above teaching away, a skilled artisan would not have been directed to use a stone mortar to pulverize or grind tea leaves.

C. The Claimed Methods Offer Unexpected Advantages

Furthermore, Applicants submit that the claimed methods, by using a stone mortar to pulverize or grind tea leaves, offer unexpected advantages. By using a stone mortar, the cell walls of tea leaves are more efficiently destroyed, thereby releasing a greater amount of glyceroglycolipids. The Office is respectfully directed to the concurrently filed Declaration from Mr. Hideki Maki under 37 C.F.R. § 1.132 (“Declaration”). In the Declaration, the glyceroglycolipid levels were compared between ground tea dispersions prepared using a stone mortar and those prepared using a cutter mill (an exemplary pulverizers for tea leaves). Pages 2-4. As shown in the chart on page 5 of the Declaration, the amount of glyceroglycolipids in ground tea dispersion resulted from stone mortar grinding is about 1.2 to 1.4 fold greater. The increased level of glyceroglycolipids presented in the resulting tea beverage further results in

rich kokumi (heartiness or mouthfeelness¹) and robust natural sweetness.² As the cited references teach neither the increased release of glyceroglycolipids due to stone mortar grinding nor the corresponding superior kokumi taste and natural sweetness, these advantageous properties are unexpected.

Given at least the above arguments, claims 14 and 22 are nonobvious. Dependent claims 15-21 and 23-28 are likewise nonobvious for at least the same reasons. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

5.2. Claims 22-28

Claims 22-28 also stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over **Yutaka** in view of **Yoshiyuki** and **Fu et al.**, U.S. Patent No. 5,827,560 (“Fu”). Office Action, page 6.

The alleged teachings and deficiencies of Yutaka and Yoshiyuki are discussed above. Fu allegedly teaches (1) “a tea extract containing soluble tannins having good color and clarity”; and (2) “a diluted tea beverage made from the tea extract.” *Id.*, at 7. It allegedly would have been obvious at the time to “have added the tea extract ... as a liquid in the high-pressure homogenization process ... for the purpose of producing a final tea beverage soluble tannin that contributes tannin specific flavor components.” *Id.*, at 8.

Applicants traverse the rejection to the extent it may be applied to either the amended or unamended claims. For at least the reasons discussed in Section 5.1 *supra*, Yutaka and Yoshiyuki fail to render claims 22-28 obvious. Fu is relied upon for its purported teachings of using a tea extract containing soluble tannins. Fu does not teach at least using a stone mortar to grind a raw tea material. Thus, Fu fails to cure at least the defects of Yutaka and Yoshiyuki. Yutaka, Yoshiyuki, and Fu, fail to render claims 22-28 obvious for at least the similar reasons

¹ See, e.g., Wikipedia page for “Taste” available at <http://en.wikipedia.org/wiki/Taste> and “The Kokumi Sensation” available at <http://blogs.smithsonianmag.com/food/2010/01/the-kokumi-sensation/>.

² See, e.g., U.S. Publish Patent Application No. 2011/0104358 A1, Test Example 8 (identifying glyceroglycolipids as the taste (kokumi) enhancing component).

discussed above. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response; the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

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Respectfully submitted,

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